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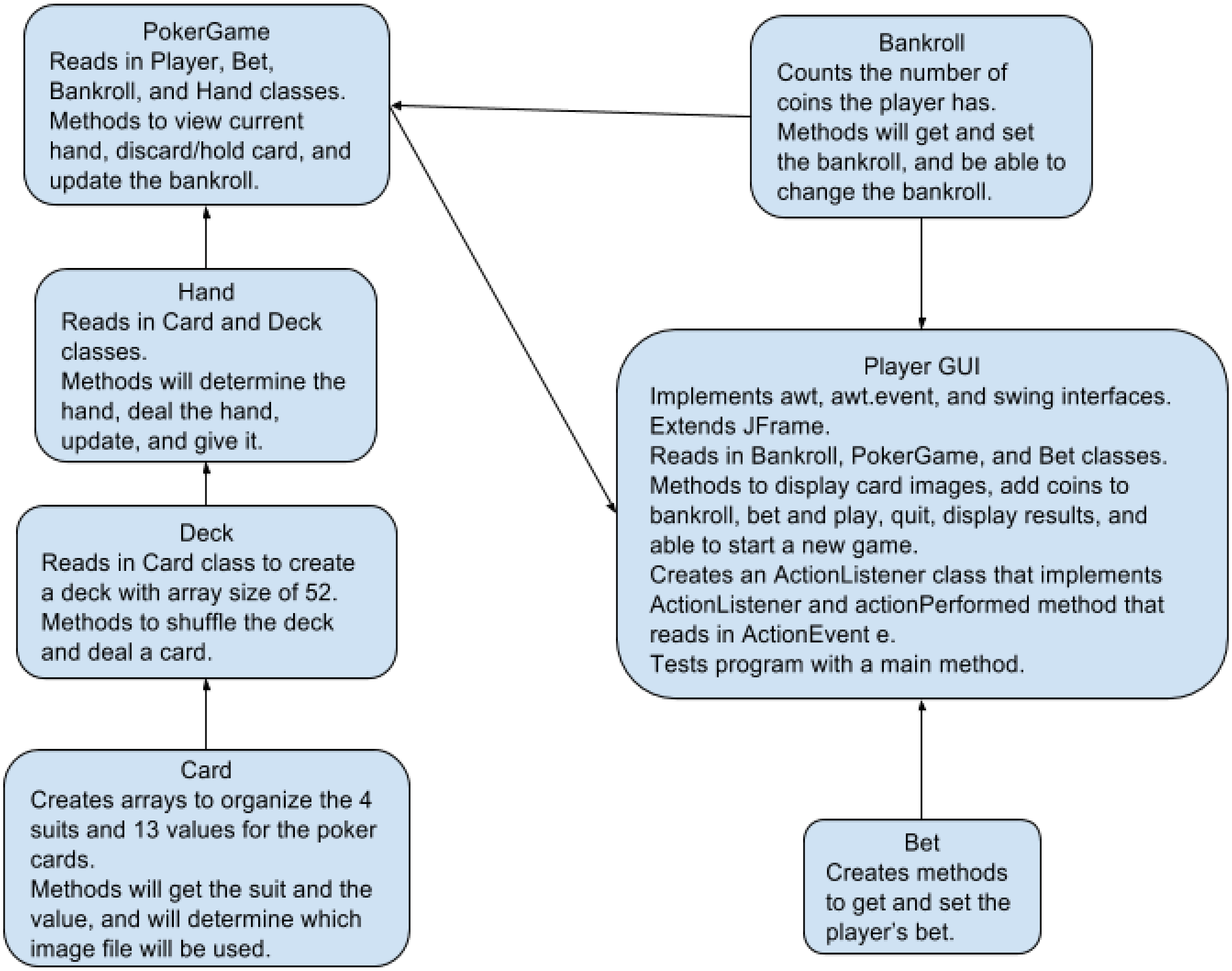
CSC 123-03
April 28, 2017
Project #4 - Video Poker

Class Diagram:



PokerGame
Reads in Player, Bet, Bankroll, and Hand classes. Methods to view current hand, discard/hold card, and update the bankroll.

Bankroll
Counts the number of coins the player has. Methods will get and set the bankroll, and be able to change the bankroll.

Hand
Reads in Card and Deck classes.
Methods will determine the hand, deal the hand, update, and give it.

Player GUI
Implements awt, awt.event, and swing interfaces.
Extends JFrame.
Reads in Bankroll, PokerGame, and Bet classes.
Methods to display card images, add coins to bankroll, bet and play, quit, display results, and able to start a new game.
Creates an ActionListener class that implements ActionListener and actionPerformed method that reads in ActionEvent e.
Tests program with a main method.

Deck
Reads in Card class to create a deck with array size of 52.
Methods to shuffle the deck and deal a card.

Card
Creates arrays to organize the 4 suits and 13 values for the poker cards.
Methods will get the suit and the value, and will determine which image file will be used.

Bet
Creates methods to get and set the player's bet.

Program Code:

```
//New Player Class - Image files are stored in src/ folder
import java.awt.*;
import java.awt.event.*;
import java.io.*;
import java.net.*;
import java.util.logging.*;
import javax.swing.*;
public class Player extends JFrame{

    private JLabel resultLabel;
    private JLabel[] cardLabel;
    private JButton[] holdButton;
    private JButton add1Button;
    private JButton add5Button;
    private JLabel bankrollLabel;
    private JButton quitButton;
    private JButton dealButton;
    private JButton startNewButton;
    private JButton[] betAndPlayButton;
    private Bankroll bankroll;
    private PokerGame pokerGame;
    private Bet bet;
    private JMenuBar menuBar = new JMenuBar();
    private JMenu menu = new JMenu("Menu");
    private JMenuItem check = new JMenuItem("Check coins");
    private JMenuItem add = new JMenuItem("Add coins");
    private JMenuItem reset = new JMenuItem("Start New Game");
    private JMenuItem quit = new JMenuItem("Quit Game");
    /*private JMenu bonus = new JMenu("Bonus");
    private JMenuItem secret = new JMenuItem("");
    private JMenuItem HowToPlay = new JMenuItem("How to play");
    private JMenuItem MySon = new JMenuItem("Funny Picture");*/

    //Constructor
    public Player() {
        super("Video Poker");
        bet = new Bet();
        bankroll = new Bankroll();
        setBounds(0, 0, 800, 800);

        //Menu Bar
        menuBar.add(menu);
        menu.add(check);
        menu.add(add);
        menu.add(reset);
        menu.add(quit);
        setJMenuBar(menuBar);
```

```
check.addActionListener(new ButtonListener());
add.addActionListener(new ButtonListener());
reset.addActionListener(new ButtonListener());
quit.addActionListener(new ButtonListener());
/*menuBar.add(bonus);
bonus.add(HowToPlay);
bonus.add(MySon);
bonus.add(secret);
secret.addActionListener(new ButtonListener());
HowToPlay.addActionListener(new ButtonListener());
MySon.addActionListener(new ButtonListener());*/

//Label for results
resultLabel = new JLabel();
resultLabel.setFont(new Font("Arial", Font.BOLD, 18));
resultLabel.setText("Video Poker");

//The five card images
cardLabel = new JLabel[5];
String backCard = "src/br.gif";
for (int i = 0; i < 5; i++){
        cardLabel[i] = new JLabel(new ImageIcon(backCard));
}

holdButton = new JButton[5];
for (int i = 0; i < 5; i++){
        holdButton[i] = new JButton(""  + (i +  1));
        holdButton[i].setFont(new Font("Arial", Font.BOLD, 18));
        holdButton[i].setEnabled(false);
}

betAndPlayButton = new JButton[5];
for (int i = 0; i <  5; i++){
        betAndPlayButton[i] = new JButton("Bet " + (i + 1));
        betAndPlayButton[i].setEnabled(false);
        betAndPlayButton[i].setFont(new Font("Arial", Font.BOLD, 15));
}

dealButton = (new JButton("Deal"));
dealButton.setFont(new Font("Arial", Font.BOLD, 18));
dealButton.setEnabled(false);

quitButton  = new JButton("Quit Game");
quitButton.setFont(new Font("Arial", Font.BOLD, 15));

startNewButton  = new JButton("Start New Game");
startNewButton.setFont(new Font("Arial", Font.BOLD, 15));
```

```
bankrollLabel = new JLabel();
bankrollLabel.setFont(new Font("Arial", Font.BOLD, 24));
bankrollLabel.setText("Coins remaining: " + 0);

add1Button = new JButton("Add 1 Coin");
add5Button = new JButton("Add 5 Coins");
add1Button.setFont(new Font("Arial", Font.BOLD, 15));
add5Button.setFont(new Font("Arial", Font.BOLD, 15));

JPanel centerPanel = new JPanel(new GridLayout(4,5));

//five bet buttons
for (int i  = 0; i <  5; i++){
        centerPanel.add(betAndPlayButton[i]);
}

//display five card labels/images
for (int i =  0; i <  5; i++){
        centerPanel.add(cardLabel[i]);
}

//add five hold buttons
for (int i = 0; i < 5; i++){
        centerPanel.add(holdButton[i]);
}

centerPanel.add(add1Button);
centerPanel.add(add5Button);
centerPanel.add(dealButton);
centerPanel.add(quitButton);
centerPanel.add(startNewButton);

add(resultLabel, BorderLayout.NORTH);//top text
add(bankrollLabel, BorderLayout.SOUTH);//bottom text
add(centerPanel, BorderLayout.CENTER);//centered buttons

add1Button.addActionListener(new ButtonListener());
add5Button.addActionListener(new ButtonListener());
dealButton.addActionListener(new ButtonListener());
quitButton.addActionListener(new ButtonListener());
startNewButton.addActionListener(new ButtonListener());

for(int i = 0; i < 5; i++){
        betAndPlayButton[i].addActionListener(new ButtonListener());
}

for(int i = 0; i < 5; i++){
        holdButton[i].addActionListener(new ButtonListener());
        }

        setResizable(false);
        setVisible(true);
    }

    //All images placed under src/ folder
    public void displayHand(Hand hand){
        String[] handString = hand.getHand();
        for(int i = 0; i < 5; i++){
            String name = "src/" + handString[i] + ".gif";
            cardLabel[i].setIcon(new ImageIcon(name));
        }
    }

    public void getDiscard(boolean[] holdCards){
        for(int i = 0; i < 5; i++){
            if(holdButton[i].isEnabled()){
                holdCards[i] = false;
            }
            else{
                holdCards[i] = true;
            }
        }
    }

    public void displayResults(int payoff, int winnings){
        String nameOfHand = "Lose";
        if(payoff == 250){
            nameOfHand = "Royal Flush";
        }
        else if(payoff == 50){
            nameOfHand = "Straight Flush";
        }
        else if(payoff == 25){
            nameOfHand = "Four of a Kind";
        }
        else if(payoff == 9){
            nameOfHand = "Full House";
        }
        else if(payoff == 6){
            nameOfHand = "Flush";
        }
        else if(payoff == 4){
            nameOfHand = "Straight";
        }
        else if(payoff == 3){
            nameOfHand = "Three of a Kind";
        }
        else if(payoff == 2){
            nameOfHand = "Two Pair";
        }
        else if(payoff == 1){
            nameOfHand = "Pair of Jacks or Better";
        }

        if(winnings > 0){
            resultLabel.setText("Winner: " + nameOfHand + " - pays " + winnings);
        }
        else{
            resultLabel.setText("You lost your bet of " + bet.getBet());
        }

        bankrollLabel.setText("Coins remaining: " + bankroll.getBankroll());
    }

    //Action Listener Class
    private class ButtonListener implements ActionListener{
        @Override
        public void actionPerformed(ActionEvent e) {
            //Adds more coins in coin balance
            if ((e.getSource() == add1Button) || (e.getSource() == add5Button)) {
                if (e.getSource() ==  add1Button){
                    bankroll.alterBankroll(1);
                }
                else{
                    bankroll.alterBankroll(5);
                }

                int br = bankroll.getBankroll();
                bankrollLabel.setText("Coins remaining: "  + br);
                for (int i = 0; i < 5; i++){
                    if (br >= (i + 1)){
                        betAndPlayButton[i].setEnabled(true);
                    }
                }
                return;
            }

            //Quits the program
            if (e.getSource() == quitButton){
                int br = bankroll.getBankroll();
                System.exit(0);
            }

            //5 buttons for betting
```

```java
for (int i = 0; i < 5; i++){
    if (e.getSource() == betAndPlayButton[i]) {
        bet = new Bet();
        bet.setBet(i + 1);
        resultLabel.setText("Bet is " + (i + 1));

        pokerGame = new PokerGame(bet, bankroll, Player.this);
        pokerGame.viewInitialHand();
        for(int j = 0; j < 5; j++) {
            holdButton[j].setText("" + (j + 1));
            holdButton[j].setEnabled(true);
        }

        // enable and disable other buttons
        add1Button.setEnabled(false);
        add5Button.setEnabled(false);
        quitButton.setEnabled(true);
        dealButton.setEnabled(true);
        startNewButton.setEnabled(true);
        for (int j = 0; j < 5; j++)
            betAndPlayButton[j].setEnabled(false);
        return;
    }
}

//5 buttons to hold cards
for (int i = 0; i < 5; i++){
    if (e.getSource() == holdButton[i]) {
        holdButton[i].setText("Hold");
        holdButton[i].setEnabled(false);
        return;
    }
}

//Deal button - Enables when player chooses a bet button.
if (e.getSource() == dealButton) {
    pokerGame.discardOrHoldCards();
    dealButton.setEnabled(false);
    for(int j = 0; j <  5; j++){
        holdButton[j].setEnabled(false);
    }
    for (int i = 0; i <  5; i++)
        if (bankroll.getBankroll()  >= (i + 1)){
            betAndPlayButton[i].setEnabled(true);
        }
    add1Button.setEnabled(true);
    add5Button.setEnabled(true);
    quitButton.setEnabled(true);
```

```
            }

            //Start button to start a new game. Resets cards and number of coins in balance.
            if(e.getSource() == startNewButton){
                for(int i = 0; i < 5; i++){
                    String name = "src/br.gif";
                    cardLabel[i].setIcon(new ImageIcon(name));
                }
                resultLabel.setText("Video Poker");
                bankroll = new Bankroll(0);
                bankrollLabel.setText("Coins remaining: " + 0);
                add1Button.setEnabled(true);
                add5Button.setEnabled(true);
                quitButton.setEnabled(true);
                dealButton.setEnabled(false);
                for(int j = 0; j < 5; j++)
                    betAndPlayButton[j].setEnabled(false);
                for(int j = 0; j < 5; j++){
                    holdButton[j].setText("" + (j+1));
                    holdButton[j].setEnabled(false);
                }

                return;
            }

            //MenuBar items
            if(e.getSource() == check){
                JOptionPane.showMessageDialog(null, "Your current bankroll: " +
bankroll.getBankroll());
            }
            else if(e.getSource() == add){
                int amount = Integer.parseInt(JOptionPane.showInputDialog("Enter
amount of coins"));
                bankroll.alterBankroll(amount);
                int br = bankroll.getBankroll();
                bankrollLabel.setText("Coins remaining: " + br);
                for (int i = 0; i < 5; i++){
                    if (br >= (i + 1)){
                        betAndPlayButton[i].setEnabled(true);
                    }
                }
            }
            else if(e.getSource() == reset){
                for(int i = 0; i < 5; i++){
                    String name = "src/br.gif";
                    cardLabel[i].setIcon(new ImageIcon(name));
                }
                resultLabel.setText("Video Poker");
                bankroll = new Bankroll(0);
                bankrollLabel.setText("Coins remaining: " + 0);
                add1Button.setEnabled(true);
                add5Button.setEnabled(true);
                quitButton.setEnabled(true);
                dealButton.setEnabled(false);
                for(int j = 0; j < 5; j++)
                    betAndPlayButton[j].setEnabled(false);
                for(int j = 0; j < 5; j++){
                    holdButton[j].setText("" + (j+1));
                    holdButton[j].setEnabled(false);
                }
            }
            else if(e.getSource() == quit){
                System.exit(0);
            }

            //Bonus menu items for fun
            /*if(e.getSource() == secret){
                bankroll.alterBankroll(100);
                int br = bankroll.getBankroll();
                bankrollLabel.setText("Coins remaining: "  + br);
                for (int i = 0; i < 5; i++){
                    if (br >= (i + 1)){
                        betAndPlayButton[i].setEnabled(true);
                    }
                }
                ImageIcon image = new ImageIcon("src/Gc_EasterEgg_03_result.png");
                JOptionPane.showMessageDialog(null, "Hidden easter egg
found!\nHere's 100 coins!", "SURPRISE!!!", JOptionPane.INFORMATION_MESSAGE,image);
                secret.setEnabled(false);
            }

            if(e.getSource() == MySon){
                ImageIcon image = new ImageIcon("src/IMG_2870.JPG");
                JOptionPane.showMessageDialog(null, "", "",
JOptionPane.INFORMATION_MESSAGE,image);
            }

            if(e.getSource() == HowToPlay){
                try{
                    Desktop.getDesktop().browse(new
URL("http://vegasclick.com/games/videopoker").toURI());
                }
                catch(MalformedURLException ex){

Logger.getLogger(callbrowser.class.getName()).log(Level.SEVERE, null, ex);
                }
                catch(URISyntaxException ex){

                } catch (IOException e1) {
                    e1.printStackTrace();
                }
            }*/
        }
    }

    //Extra coding for fun
    /*public class callbrowser extends javax.swing.JFrame{
        public callbrowser(){
            getComponents();
        }
    }*/

    public static void main(String[] args){
        Player pm = new Player();
        pm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}
```

//PokerGame Class

```
public class PokerGame {
    private Bankroll bankroll;
    private Bet bet;
    private Hand hand;
    private Player player;
    private boolean[] holdCards;

    public PokerGame(Bet coinsBet, Bankroll br, Player pl) {
        bankroll = br;
        bet = coinsBet;
        player = pl;
        hand = new Hand();
        holdCards = new boolean[5];
    }

    int updateBankroll(int payoff) {
        int winnings = payoff * (bet.getBet());   // negative for a loss
        bankroll.alterBankroll(winnings);
        return winnings;
    }

    public void viewInitialHand() {
        hand.newHand();
        player.displayHand(hand);
    }

    public void discardOrHoldCards() {
        player.getDiscard(holdCards);
        hand.updateHand(holdCards);
        player.displayHand(hand);
        int payoff = hand.evaluateHand();
        int winnings = updateBankroll(payoff);
        player.displayResults(payoff, winnings);
    }
}
```

//Bet Class

```
import java.util.Scanner;

public class Bet {
    private int bet;
    public Bet(){   //default constructor sets bet to 0
            bet = 0;
    }

    public Bet(int n) {        //one-argument constructor, sets bet to n
            bet = n;
    }

    public void setBet(int n) {
        bet = n;
    }

    public int getBet() {     //getter
        return bet;
    }

    //Test
    public static void main(String[] args){
            Scanner in = new Scanner(System.in);
            System.out.println("Enter an integer: ");
            int n = in.nextInt();
            Bet bet1 = new Bet();
            System.out.println("Getter" + bet1.getBet());
            bet1.setBet(n);
            System.out.println("After Setter" + bet1.getBet());
            Bet bet2 = new Bet(n);
            System.out.println("Getter;" + bet2.getBet());
            bet2.setBet(n + 10);
            System.out.println("Getter;" + bet1.getBet());
    }
}
```

```
//Deck Class
import java.util.*;
public class Deck {
    private Card[] deck;
    private int next;          //holds position of next card to be dealt

    public Deck() {
        deck = new Card[53]; // Does not use position 0, uses 1..52.

        for (int rank = 1; rank <= 13; rank++) {
            // Place cards in order in deck.
            deck[rank] = new Card(1, rank); // Hearts.
            deck[rank + 13] = new Card(2, rank); // Diamonds.
            deck[rank + 26] = new Card(3, rank); // Clubs.
            deck[rank + 39] = new Card(4, rank); // Spades.
        }
        next = 1;    //first card dealt is deck[next]
    }

    public void shuffle() {
        Random randomNumber = new Random();

        for (int card = 1; card <= 52; card++) {
            int rand = randomNumber.nextInt(52) + 1;
            // Swap deck[card] with deck[r].
            Card temp = deck[card];
            deck[card] = deck[rand];
            deck[rand] = temp;
        }

        next = 1; // Top card of the deck.
    }

    public Card deal() {
        if (next > 52) // If deck is depleted...
            shuffle();
        Card card = deck[next];
        next++;
        return card;
    }
}
```

```
//Card Class
import java.util.Scanner;
public class Card {
    private int suit;
    /**
     * 1: Hearts
     * 2: Diamonds
     * 3: Clubs
     * 4: Spades
     */

    private int value;
    /**
     * 1: Ace
     * 2-10: 2-10
     * 11: Jack
     * 12: Queen
     * 13: King
     */

    public Card(){    //Ace of Hearts by Default
        suit = 1;
        value = 1;
    }

    public Card(int s, int v) {
        suit = s;
        value = v;
    }

    public int getSuit() {
        return suit;
    }

    public int getValue() {
        return value;
    }

    public void setSuit(int s) {
        suit = s;
    }

    public void setValue(int v) {
        value = v;
    }

    //Added images to the src/ folder
    public String getName() { // Returns string, e.g., "Ace of Hearts".
```

```
String name = "";
if (value == 1){
        if (suit == 1)
                name += "ha";//"Hearts";
        else if (suit == 2)
                name += "da";//"Diamonds";
        else if (suit == 3)
                name += "ca";//Clubs";
        else if(suit == 4)
                name += "sa";//"Spades";
}

else if (value == 2){
        if (suit == 1)
                name += "h2";//"Hearts";
        else if (suit == 2)
                name += "d2";//"Diamonds";
        else if (suit == 3)
                name += "c2";//Clubs";
        else if(suit == 4)
                name += "s2";//"Spades";
}

else if (value == 3){
        if (suit == 1)
                name += "h3";//"Hearts";
        else if (suit == 2)
                name += "d3";//"Diamonds";
        else if (suit == 3)
                name += "c3";//Clubs";
        else if(suit == 4)
                name += "s3";//"Spades";
}

else if (value == 4){
        if (suit == 1)
                name += "h4";//"Hearts";
        else if (suit == 2)
                name += "d4";//"Diamonds";
        else if (suit == 3)
                name += "c4";//Clubs";
        else if(suit == 4)
                name += "s4";//"Spades";
}

else if (value == 5){
        if (suit == 1)
                name += "h5";//"Hearts";
```

```
            else if (suit == 2)
                name += "d5";//"Diamonds";
            else if (suit == 3)
                name += "c5";//Clubs";
            else if(suit == 4)
                name += "s5";//"Spades";
        }

        else if (value == 6){
            if (suit == 1)
                name += "h6";//"Hearts";
            else if (suit == 2)
                name += "d6";//"Diamonds";
            else if (suit == 3)
                name += "c6";//Clubs";
            else if(suit == 4)
                name += "s6";//"Spades";
        }

        else if (value == 7){
            if (suit == 1)
                name += "h7";//"Hearts";
            else if (suit == 2)
                name += "d7";//"Diamonds";
            else if (suit == 3)
                name += "c7";//Clubs";
            else if(suit == 4)
                name += "s7";//"Spades";
        }

        else if (value == 8){
            if (suit == 1)
                name += "h8";//"Hearts";
            else if (suit == 2)
                name += "d8";//"Diamonds";
            else if (suit == 3)
                name += "c8";//Clubs";
            else if(suit == 4)
                name += "s8";//"Spades";
        }

        else if (value == 9){
            if (suit == 1)
                name += "h9";//"Hearts";
            else if (suit == 2)
                name += "d9";//"Diamonds";
            else if (suit == 3)
                name += "c9";//Clubs";
        else if(suit == 4)
                name += "s9";//"Spades";
}

else if (value == 10){
        if (suit == 1)
                name += "ht";//"Hearts";
        else if (suit == 2)
                name += "dt";//"Diamonds";
        else if (suit == 3)
                name += "ct";//Clubs";
        else if(suit == 4)
                name += "st";//"Spades";
}

else if (value == 11){
        if (suit == 1)
                name += "hj";//"Hearts";
        else if (suit == 2)
                name += "dj";//"Diamonds";
        else if (suit == 3)
                name += "cj";//"Clubs";
        else if(suit == 4)
                name += "sj";//"Spades";
}

else if (value == 12){
        if (suit == 1)
                name += "hq";//"Hearts";
        else if (suit == 2)
                name += "dq";//"Diamonds";
        else if (suit == 3)
                name += "cq";//"Clubs";
        else if(suit == 4)
                name += "sq";//"Spades";
}

else if (value == 13){
        if (suit == 1)
                name += "hk";//"Hearts";
        else if (suit == 2)
                name += "dk";//"Diamonds";
        else if (suit == 3)
                name += "ck";//"Clubs";
        else if(suit == 4)
                name += "sk";//"Spades";
}
```

```
        return name;
    }

    //Test
    public static void main(String[] args){
        for (int s = 1; s <=  4; s++){ // 4 suits
            for (int val = 1; val <= 13; val++){ // 13 cards per suit {
                Card cd = new Card(s, val);
                System.out.println(s + "," + val + ": " + cd.getName());
            }
        }
        Scanner input = new Scanner(System.in);
        System.out.print ("Suit: ");
        int s = input.nextInt();
        System.out.print("Value: ");
        int val = input.nextInt();
        Card cd = new Card(s, val);
        System.out.println(s + "," + val + ": " + cd.getName());
    }
}
```

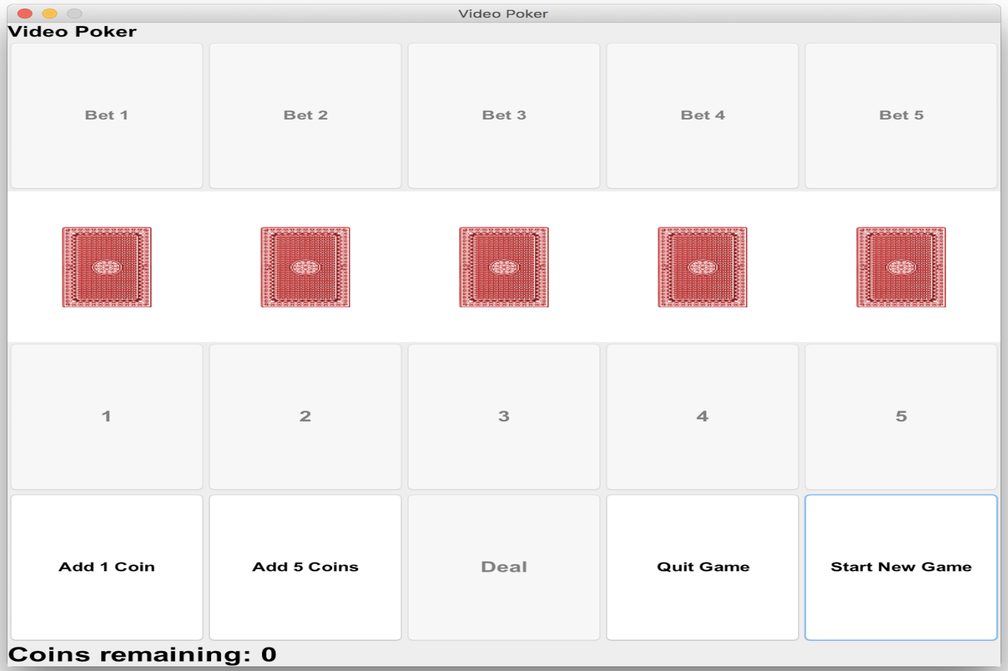
```
    }


//Hand Class
public class Hand
{
    private Card[] cards;
    private Deck deck;
    private int suits[];  // holds the number of each suit in a hand
    private int values[]; // holds the number of each type card (A,2,3,4,...K)

    public Hand()
    {
        cards = new Card[5];
        suits = new int[5];      // uses indices 1..4
        values = new int[14];   // uses indices 1..13
        deck = new Deck();
    }

    public void newHand()
    {
        deck.shuffle();
        for (int i = 0; i < 5; i++)
        {
            cards[i] = deck.deal();
            suits[cards[i].getSuit()]++ ;
            values[cards[i].getValue()]++;
        }
        sort();
    }

    public void  updateHand(boolean[] x)
    {
        for (int i = 0; i < 5; i++)
            if (!x[i])
            {
                // remove card data for card i
                suits[cards[i].getSuit()]-- ;
                values[cards[i].getValue()]--;

                // get a new card
                cards[i] = deck.deal();

                // update data for card i
                suits[cards[i].getSuit()]++ ;
                values[cards[i].getValue()]++;
            }
        sort();
    }

    public String[] getHand()
```

```
{
        String[] cardsInHand = new String[5];
        for (int i = 0; i < 5; i++)
                cardsInHand[i] = cards[i].getName();
        return cardsInHand;
}

private void sort()  // orders cards by value field; a helper function
{
        int max; // holds the position of the highest valued card
        for (int place = 4; place > 0; place--)
        {
                max = 0;
                // find the position of the highest valued card between 0 ans place
                // the position of the high card is stored in max
                for (int i = 1; i <= place; i++)
                        if ( cards[i].getValue() > cards[max].getValue())
                                max = i;
                // swap the highest wlaued card with the card in position place
                Card temp = cards[place];
                cards[place] = cards[max];
                cards[max] = temp;
        }
}
public int  evaluateHand()
{
        if (royalFlush())  // royal flush pays 250:1
                return 250;
        else if (straightFlush()) // straight flush pays 50:1
                return 50;
        else if (fourOfAKind()) // four of a kind
                return 25; // four of a kind pays 25:1
        else if (fullHouse()) // full house
                return 9;
        else if (flush())
                return 6;
        else if (straight())
                return 4;
        else if (threeOfAKind()) // three of a kind
                return 3;
        else if (twoPair())
                return 2;
        else if (pair())  // Jacks or better
                return 1;
        return -1;   // losing hand
}

private boolean royalFlush()
```

```
{
        //10, J,Q,K,A of the same suit
        boolean sameSuit= false;  // true if all same suit
        boolean isRoyalty= false; //  true if cards are 10,J,K,Q,A
        for(int i = 1; i <=4; i++)
                if (suits[i] == 5)  // all five cards of one suit?
                        sameSuit = true;
        isRoyalty = (values[1] == 1 &&
                        values[10] ==1 &&
                        values[11] ==1 &&
                        values[12] == 1 &&
                        values[13] == 1);
        return (sameSuit && isRoyalty); // true if both conditions are true
}
private boolean straightFlush()
{
        boolean sameSuit = false;
        boolean ranksInOrder = false;
        for(int i = 1; i <=4; i++)
                if (suits[i] == 5)
                        sameSuit = true;  // same suit?
        // cards in sequence?
        ranksInOrder =
                        cards[1].getValue() == (cards[0].getValue() + 1) &&
                        cards[2].getValue() == (cards[0].getValue() + 2) &&
                        cards[3].getValue() == (cards[0].getValue() + 3) &&
                        cards[4].getValue() == (cards[0].getValue() + 4);
        return (sameSuit && ranksInOrder);
}

private boolean flush()
{
        for(int i = 1; i <=4; i++)
                if (suits[i] == 5)  // all the same suit?
                        return true;
        return false;
}

private boolean fourOfAKind()
{
        for(int i =1 ; i <= 13; i++)
                if (values[i] == 4)
                        return true;
        return false;
}

private boolean fullHouse()
{
        boolean three= false;
        boolean two= false;
        for(int i =1 ; i <= 13; i++)
                if (values[i] == 3)  // three of one kind
                        three= true;
                else if (values[i] ==2) // two of another kind
                        two = true;
        return  two && three; // both conditions
}
private boolean straight()
{
        // cards in sequence?
        return
                        // Ace precedes 2
                        (cards[1].getValue() == (cards[0].getValue() + 1) &&
                        cards[2].getValue() == (cards[0].getValue() + 2) &&
                        cards[3].getValue() == (cards[0].getValue() + 3) &&
                        cards[4].getValue() == (cards[0].getValue() + 4))  ||
                        //Ace follows King
                        (values[1] == 1 && //Ace
                        values[10] ==1 &&  //Ten
                        values[11]==1 &&  //Jack
                        values[12] == 1 && //Queen
                        values[13] == 1); //King
}

private boolean threeOfAKind()
{
        for(int i =1 ; i <= 13; i++)
                if (values[i] == 3)
                        return true;
        return false;
}

private boolean twoPair()
{
        int count = 0;
        for( int i = 1; i <= 13; i++)
                if(values[i] == 2)   // count the number of pairs
                        count++;
        return (count == 2);
}
private boolean pair() // Jacks or Higher
{
        if (values[1] == 2) //pair of aces
                return true;
        for( int i = 11; i <= 13; i++) // pair of Jacks or higher
                if(values[i] ==2)
                return true;
        return false;
    }
}
```

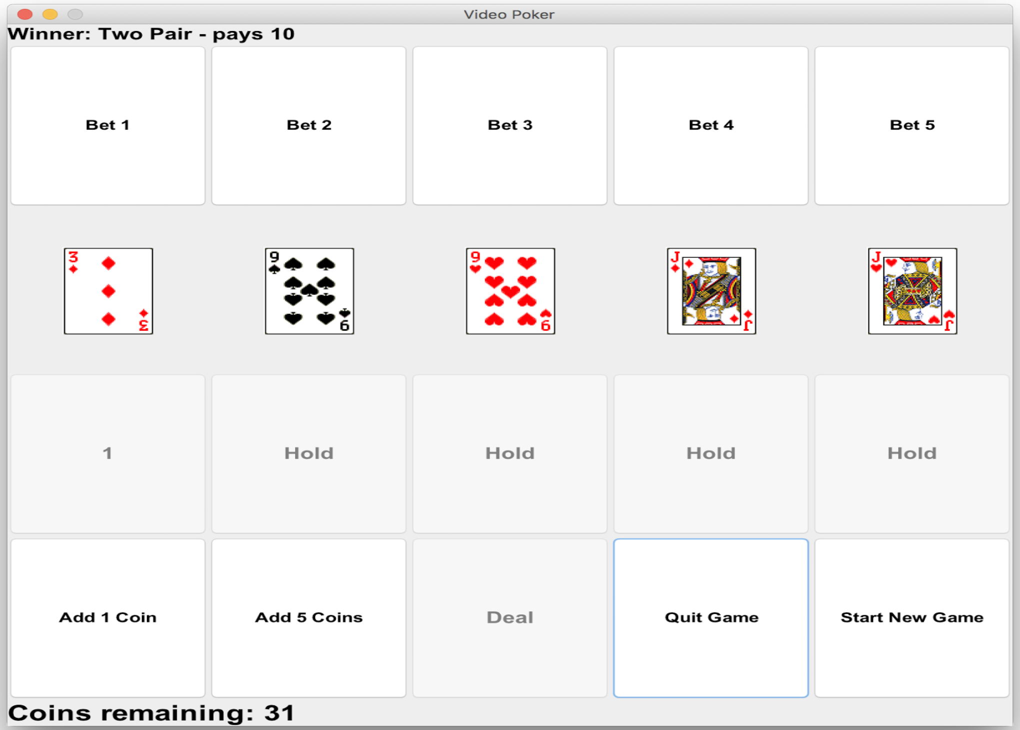
```
//Bankroll Class
import java.util.Scanner;
public class Bankroll {
        private int bankroll;

        public Bankroll(){              //default constructor
                bankroll = 0;
        }

        public Bankroll(int n) { //one argument
                bankroll = n;
        }

        public int getBankroll() {
                return bankroll;
        }

        public void setBankroll(int n){
                bankroll = n;
        }

        public void alterBankroll(int n) {
                bankroll += n;
        }

        //Test
        public static void main(String[] args){
                Scanner in = new Scanner(System.in);
                System.out.println("What is your bankroll?");
                int bank = in.nextInt();
                Bankroll bankroll = new Bankroll();
                bankroll.setBankroll(bank);
                System.out.println("Bankroll: " + bankroll.getBankroll());
        }
}
```

Some Examples of My Video Poker Program:



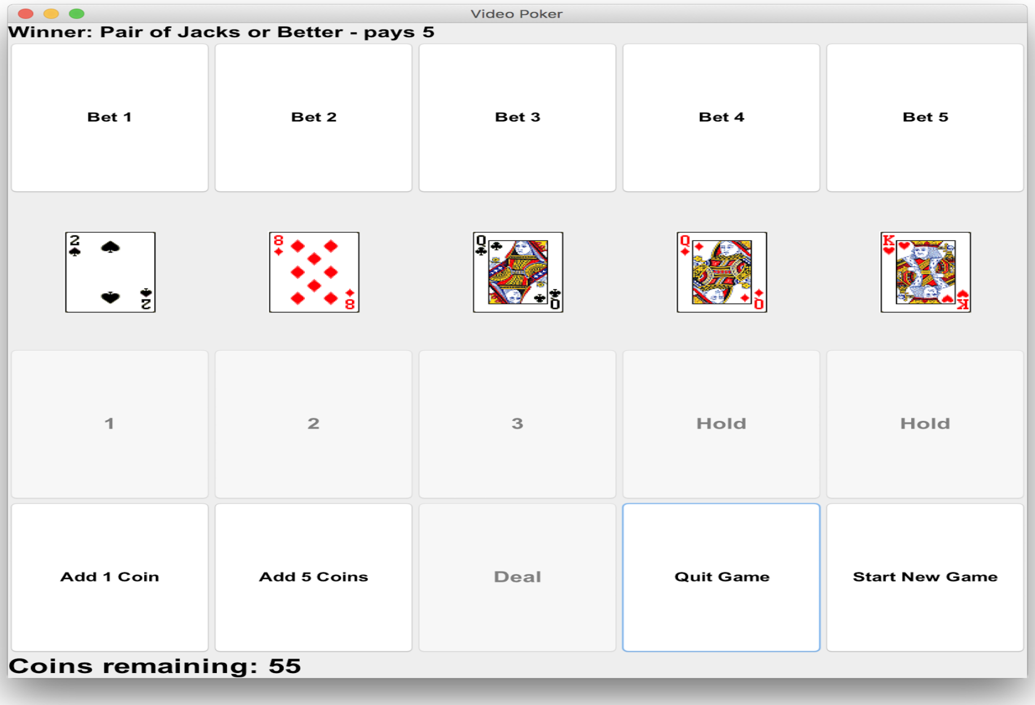
Video Poker

Coins remaining: 0



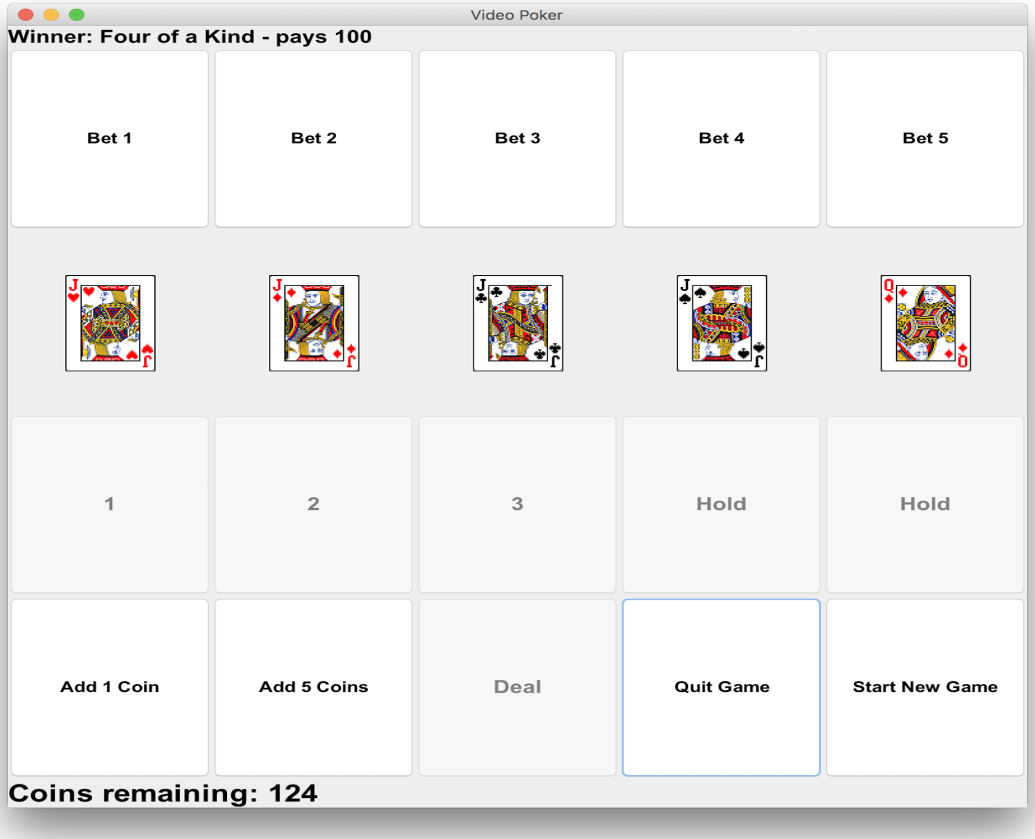
Winner: Two Pair - pays 10

Coins remaining: 31



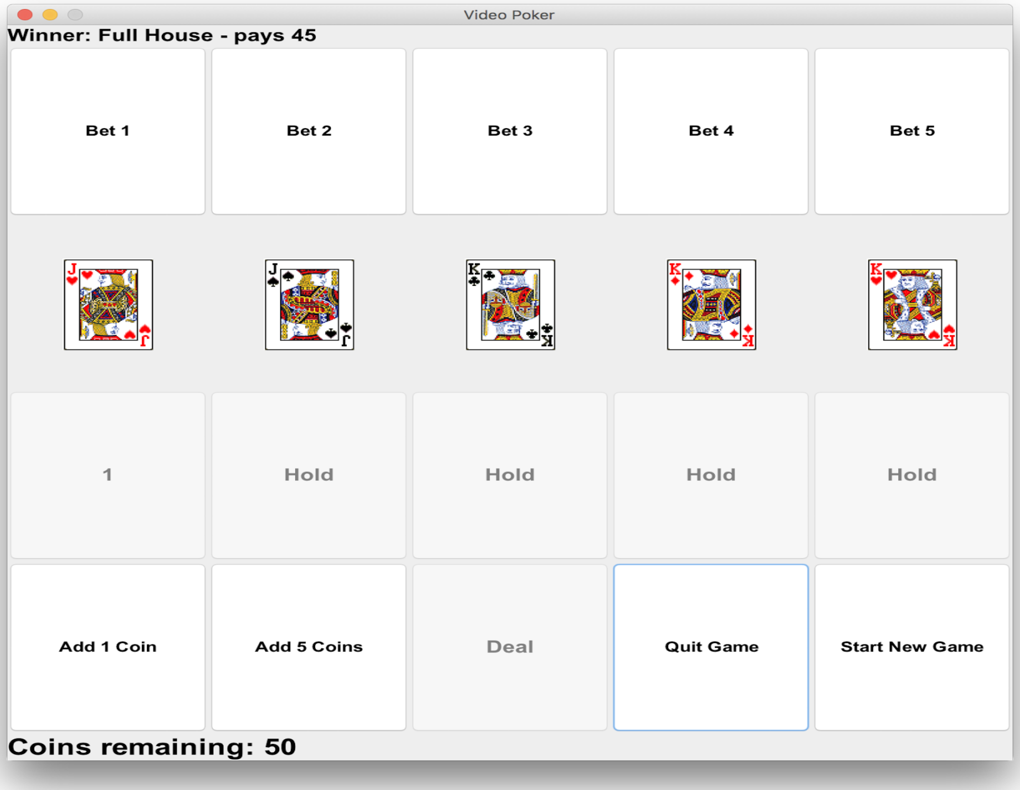
Winner: Pair of Jacks or Better - pays 5

Coins remaining: 55



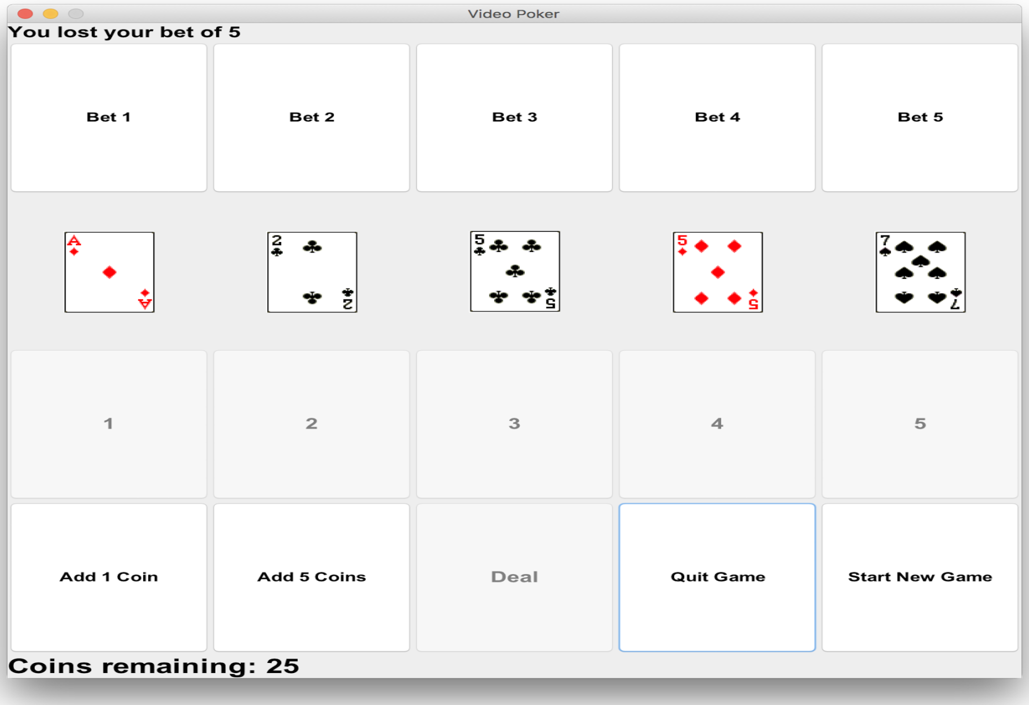
Winner: Four of a Kind - pays 100

Coins remaining: 124



Winner: Full House - pays 45

Coins remaining: 50



You lost your bet of 5

Coins remaining: 25